ORACLES - P-3 Orion 09/02/17 Science Report

Aircraft: P-3 Orion - WFF (See full schedule)
Date: Saturday, September 2, 2017
Mission: ORACLES
Mission Location: Sao Tome to Ascension Island
Mission Summary:

This was a science flight that was also the first Transit leg from Sao Tome island to Ascension Island.
Several objectives were accomplished on this flight:

- Got a 4STAR “AeroNet-like” sky-scans below layers of dust plus smoke, then sampled the smoke layer in-situ. Also got vertically-resolved curtain from HSRL. The goal is to test AeroNet retrieval of column absorption/SSA and different methods of attributing column absorption to dust and carbonaceous aerosol.
- Sampled smoke aerosol in northern end of study area to see if it is chemically/optically different than smoke to the south. Expect that aerosol in northern area more influenced by wet convection; southern area aerosol more influenced by dry convection.
- Plume sampled along 5E on Aug 30, then re-sampled (per forward trajectories) on Aug 31 is expected to be just NE of ASI on 2 Sept. On approach to Ascension Island we re-sampled this aerosol to add to “Lagrangian”/aging study.
- Included 10min leg in-cloud for HiGEAR to check for droplet shatter in CVI.

See attached full flight report for more details.

Submitted by: Sarah Doherty on 09/11/17
File:
PRF13_Y17_0902_FlightScienceReport.pdf
Related Flight Report:

P-3 Orion 09/02/17

Flight Number: Transit Flight #1/Science
Payload Configuration: ORACLES
Nav Data Collected: No
Total Flight Time: 8.7 hours
Archive Data: 20170902 (82 binary files; 39 image files; 24 archive (plain-text) files)
Submitted by: Mike Cropper on 09/06/17
Flight Segments:

From:	FPST	**To:**	FHAW
Start:	09/02/17 09:05 Z	**Finish:**	09/02/17 17:48 Z
Flight Time:	8.7 hours		
Log Number:	17P001	**PI:**	Jens Redemann
Funding Source:	Hal Maring - NASA - SMD - ESD Radiation Science Program		
Purpose of Flight:	Transit		

Flight Hour Summary:

	17P001
Flight Hours Approved in SOFRS	179.5
Total Used	154.9
Total Remaining	24.6

17P001 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
07/15/17	Airworthiness Test Flight	Check	1.2	1.2	178.3	

07/16/17	Project Test Flight #1	Check	4	5.2	174.3	
07/17/17	Project Test Flight #2	Check	3.1	8.3	171.2	
08/01/17	Transit Flight #1	Transit	6.2	14.5	165	
08/07/17	Transit Flight #2	Transit	10.1	24.6	154.9	
08/09/17	Transit Flight #3/Science	Transit	7.8	32.4	147.1	
08/12/17	Science Flight #1	Science	8.5	40.9	138.6	
08/13/17	Science Flight #2	Science	9.1	50	129.5	
08/15/17	Science Flight #3	Science	9.2	59.2	120.3	
08/17/17	Science Flight #4	Science	9.1	68.3	111.2	
08/18/17	Science Flight #5	Science	5.5	73.8	105.7	
08/19/17	Science Flight #6	Science	2.2	76	103.5	0
08/21/17	Science Flight #7	Science	8.3	84.3	95.2	0
08/24/17	Science Flight #8	Science	9.4	93.7	85.8	0
08/26/17	Science Flight #9	Science	9.7	103.4	76.1	0
08/28/17	Science Flight #10	Science	9.5	112.9	66.6	0
08/30/17	Science Flight #11	Science	8.9	121.8	57.7	0
08/31/17	Science Flight #12	Science	8.3	130.1	49.4	0
09/02/17	Transit Flight #1/Science	Transit	8.7	138.8	40.7	
09/03/17	Transit Flight #2	Transit	9.7	148.5	31	
09/04/17	Transit Flight #3	Transit	5.9	154.4	25.1	
09/04/17	Transit Flight #4	Transit	0.5	154.9	24.6	

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

Page Last Updated: April 22, 2017

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